

# **1998-99 State of Kentucky's Environment:**

## **Charting a Path of Progress into the Next Century**

**Prepared by:  
Leslie Cole  
Scott Richards  
Erik Siegel**

**May 1999**

**Published by:  
The Kentucky Environmental Quality Commission  
14 Reilly Rd.  
Frankfort, KY 40601-1132  
Phone: 502-564-2150, Fax: 502-564-4245, Email: [eqc@mail.state.ky.us](mailto:eqc@mail.state.ky.us)  
Web site: <http://www.state.ky.us/agencies/eqc/eqc.html>**

---

This report may be reproduced and copied in any form, provided acknowledgement of source is made. Individuals wishing to obtain this publication in recorded format should contact the Kentucky Talking Book Library, PO Box 818, Frankfort, KY, 40602; telephone: 800-372-2968.





# 1998-99 State of Kentucky's Environment: Foreword from EQC



Paul E. Patton  
Governor

Dear Fellow Kentuckians,

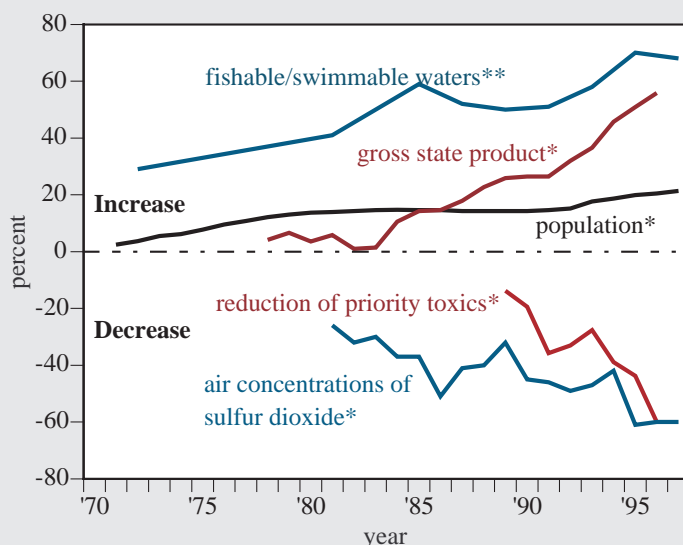
We are truly blessed to live in such a beautiful state. Not only does Kentucky boast of the most miles of waterways second to Alaska, but our landscape offers a rich diversity of life—from wildflowers to waterfowl. But pollution has taken its toll on our land, air, and water. The good news is that citizens across the state are breathing cleaner air, drinking safer water, and enjoying a cleaner environment than was the case 25 or even 10 years ago, all while our population has increased and our economy has expanded.

The *1998-99 State of Kentucky's Environment* reveals that private and public sector investments have paid off in a cleaner and safer environment. But we still have a long way to go. Many challenges lie ahead—from reducing toxic air pollutants to promoting proper garbage disposal. Addressing these and other pressing issues will have a profound influence on the quality of the environment we leave to our children and grandchildren.

On behalf of EQC, I am pleased to present the *1998-99 State of Kentucky's Environment*. The accomplishments chronicled in this report could not have been possible without the dedication of the 1,550 employees of the Natural Resources and Environmental Protection Cabinet who work each day to preserve Kentucky's environment. The Commission would like to express our gratitude for a job well done and dedicate this report to them.

Chair, Environmental Quality Commission

## Charting a Path of Environmental and Economic Progress in Kentucky



Note: Gross State Product is an important indicator of economic activity. It is a measure of total production and consumption of goods and services in Ky. \*Percent change from base year (Gross state product adjusted for inflation for 1992). \*\*Percent of monitored waterways meeting designated uses. Source: U.S. Dept. of Commerce; U.S. Census; Toxic Release Inventory; KY Div. for Air Quality; Ky. Div. of Water.



# Table of Contents

<b>Acknowledgements . . . . .</b>	<b>6</b>
<b>Overview and Key Findings . . . . .</b>	<b>7</b>
<b>Chapter 1. Drinking Water . . . . .</b>	<b>19</b>
Public Drinking Water Quality . . . . .	20
Contamination of Public Drinking Water . . . . .	22
Boil Water Notices and Advisories . . . . .	24
Private Drinking Water Wells . . . . .	25
Drinking Water Infrastructure/Supplies . . . . .	26
<b>Chapter 2. Water Quality . . . . .</b>	<b>27</b>
Water Quality of Rivers, Streams . . . . .	28
Water Quality of Lakes . . . . .	30
Fish Kills and Fish Consumption Advisories . . . . .	31
Groundwater Quality . . . . .	32
On-Site Sewage Disposal . . . . .	34
Wastewater Treatment Plants . . . . .	35
Enforcement . . . . .	37
<b>Chapter 3. Air Quality . . . . .</b>	<b>39</b>
Ambient Air Concentrations . . . . .	40
Industrial Air Emissions . . . . .	41
Ground-Level Ozone . . . . .	42
Nitrogen Dioxide . . . . .	44
Sulfur Dioxide . . . . .	46
Carbon Monoxide . . . . .	48
Particulates . . . . .	49
Enforcement . . . . .	50
Indoor Air Quality . . . . .	51
Ozone-Depleting Chemicals . . . . .	52
<b>Chapter 4. Waste . . . . .</b>	<b>53</b>
Municipal Solid Waste Generation and Disposal . . . . .	54
Municipal Solid Waste Landfills and Capacity . . . . .	55
Waste Management Facilities . . . . .	56
Garbage Collection . . . . .	57
Open Dumps . . . . .	58
Recycling . . . . .	59
Solid Waste Enforcement . . . . .	60
Hazardous Waste Generation . . . . .	61
Hazardous Waste Treatment and Disposal . . . . .	63
Hazardous Waste Imports and Exports . . . . .	64
Hazardous Waste Enforcement . . . . .	65
Contaminated Waste Sites . . . . .	66
Underground Storage Tanks . . . . .	68
<b>Chapter 5. Toxics . . . . .</b>	<b>69</b>
Generation of Toxics . . . . .	70
Toxic Chemical Transfers . . . . .	71
Toxic Releases to the Environment . . . . .	72
Priority Toxics . . . . .	74
Toxic and Hazardous Spills . . . . .	76
Pesticides in Food . . . . .	77
Agricultural Chemicals . . . . .	78
Lawn-Care Chemicals . . . . .	79
Blood Lead Levels in Children . . . . .	80
<b>Appendices . . . . .</b>	<b>81</b>
A. State/County Reference Map . . . . .	82
B. Bibliography . . . . .	83
C. Photo Credits . . . . .	87

# Acknowledgments

The Environmental Quality Commission (EQC) was mandated by the Legislature in 1990 to assess environmental conditions and report these findings every two years. EQC published its first environmental trends report in 1992 with updates in 1994 and 1996. The *1998-99 State of Kentucky's Environment: Charting a Path of Progress into the Next Century* focuses on five areas: drinking water, water quality, air quality, waste management, and toxics. Each chapter includes indi-

---

*The Environmental Quality Commission was mandated in 1990 to assess environmental conditions and report these findings every two years.*

---

cators, charts, and graphs containing data and information to measure trends and conditions, and a general discussion of findings. Data in some charts have been refined and may differ from previous reports.

The report could not have been possible without the assistance of many who provided information, reviewed drafts, and offered expertise. The Commission is especially grateful to the Kentucky Department of Environmental Protection including the Division of Water, the Division for Air Quality, the Division of Waste Management, and the Risk Assessment Branch. EQC would also like to thank the Kentucky Department of Agriculture, Kentucky Agricultural Statistics Service, Kentucky Department for Public Health, Jefferson County Air Pollution Control District, Kentucky Department for Local Government, Kentucky Poison Control Center, the U.S. Environmental Protection Agency, and the Illinois State Water Survey for providing information used in the report. EQC is also grateful to Maleva Chamberlain for her assistance with editing the report.

In addition, EQC extends its appreciation to members of the *State of Kentucky's Environment* Advisory Committee for providing valuable review of the report. Members are: Jim See, American Electric Power; Caryl Pfeiffer, Kentucky Utilities; Jonathan Miller and Carl Hilton, DuPont-DOW; Allen Vicory, ORSANCO; Gordon Garner, Louisville/Jefferson County Metropolitan Sewer District; Pat Dugger, Lexington/Fayette County Department of Environmental and Emergency Management; Ronnie Pryor and Rebeckah Freeman, Kentucky Farm Bureau; Russ Barnett, University of Louisville; Judy Petersen, Kentucky Waterways Alliance; John Brazel, Kentucky Chamber of Commerce; Bill Caylor,

Kentucky Coal Association; Jack Baker, Republic Services, Inc.; Midge Shelby, LWD; Cam Metcalf, Kentucky Pollution Prevention Ctr.; Carolyn Embry, American Lung Association; Mary Shinkle, Solid Waste Coordinator Assn.; Kim Menke, Toyota; Dr. Jan Stevenson, University of Louisville; Dr. Geoffrey Cobourn, Speed Scientific School; Steve Hubbs, Louisville Water Company; and State Representative Rocky Adkins.

The report includes many photographs which help to put into perspective how unique our natural environment is and the consequences of neglect. Children are

---

*Children are pictured throughout the report to serve as a reminder that our actions today will shape the environment we leave to future generations of Kentuckians.*

---

pictured throughout the report to serve as a reminder that our actions today will shape the environment we leave to future generations of Kentuckians. EQC is grateful to all who donated pictures for this report and would like to acknowledge Frances Kirchhoff who donated many of the scenic pictures displayed throughout the report.

A majority of the charts in this report were prepared by EQC using data provided by state agencies and other sources. The intent of this report is to provide a factual accounting of environmental conditions based on sound data. EQC acknowledges, however, that in some cases data may be incomplete, not collected consistently from

---

*...while measuring environmental trends and conditions is an imperfect science, it is still a valuable tool from which to chart environmental progress in Kentucky.*

---

year-to-year, or based on samples or models. Therefore, EQC notes that while measuring environmental trends and conditions is an imperfect science, it is still a valuable tool from which to chart environmental progress in Kentucky.

EQC welcomes comments and corrections in order to refine information for future publications. Any findings or conclusions in this report are those of EQC and do not necessarily reflect the views of the individuals or agencies mentioned above.